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Prevalence of Extended-Spectrum Beta Lactamase Producing in Entrobacteriaceae Isolated from Urinary Tract Infections, Ardebil, Iran

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Background and Aim: Urinary tract infections (UTIs) caused by extended-spectrum beta lactamase (ESBL)-producing bacteria have become a growing problem worldwide. The aim of this study was to investigate the prevalence of ESBL-producing bacteria in urine samples of hospitalized patients in emam hospital of Ardabil over the period of October2011 to August 2012.
Methods: A total of 167 urinary pathogens isolated from urine samples were included in the study.All isolates were identified by routine biochemical methods and was antimicrobial susceptibility testing by Kirby-Bauer method. Confirmatory test for production of ESBLs was performed by the combination disk tests. The results were interpreted according to the recommendation of CLSI.
Results: Of 167 isolated bacteria, 135 E.coli, 13 Klebsiellapneumoniae, 4 Klebsiellaoxytoca, 5 Enterobacter cloacae, 3 Enterobacteraerogenese, 2 Citrobacterfroundi and 2 Enterobactertartawere identified by biochemical tests respectively. By confirmatory tests 67E.coli(49.6%),9Klebsiellapneumonia(69.2%),2Klebsiellaoxytoca(50%),3Enterobacter cloacae(60%),1Enterobacteraerogenese(%33.3),1Citrobacterfroundi(%50)and 1Enterobactertarta(50%)were detected as ESBLs producing respectively.
Conclusion: Based on the results of this study, broad-spectrum beta-lactamase production in bacterial strains isolated from patients with urinary tract infection was very high and almost50% of all bacterial species isolated was ESBLs producers. Because of the high prevalence of ESBL-producing bacteria in the urinary tract infections in hospitalized patients of our area, we would strongly suggest that the ESBLproduction should be considered in these patients.
Key words: ESBL, Entrobacteriaceae, Urinary tract infections